

Historic, Archive Document

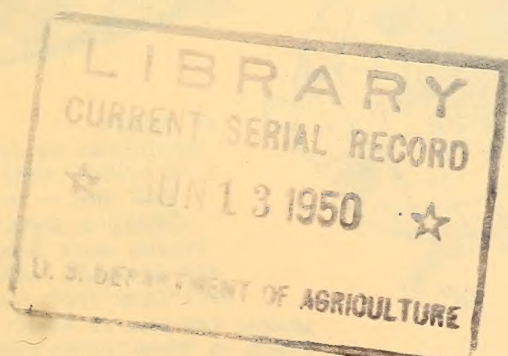
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GO TO GRASS



— By REG MANNING —



GRASS - WHEN MOST
FOLKS THINK OF
GRASS, THEY ASSOCIATE
IT WITH LAWN MOWERS.
-O' COURSE WE
KNOW THAT COWS
EAT TH' STUFF - BUT
THAT'S ABOUT AS MUCH
AS WE KNOW -



WELL,
RECENTLY
WE SPENT
SEVERAL DAYS
STUDYING
GRASS WITH
TONTTO FOREST
SUPERVISOR LEE KIRBY -
AND WE LEARNED GRASS
IS USED FOR SOMETHIN'
BESIDES LAWNS -

DRIVE ALONG ANY
HIGHWAY, AND, AT
THE CUTS, YOU
CAN SEE THE
SHALLOW TOP SOIL -
IN WESTERN HILLS
IT IS SELDOM
MORE THAN A FEW
INCHES DEEP -

TOP SOIL IS
THE "SKIN" OF THE EARTH -
★ FOLIAGE IS
THE "HAIR" ★



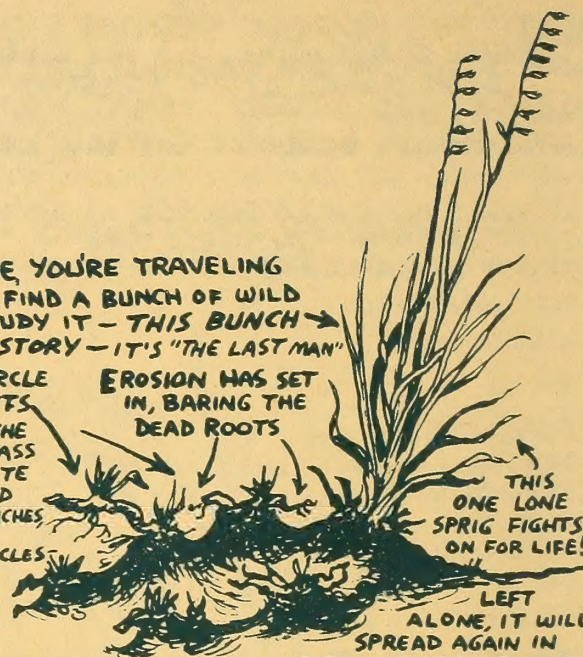
IT TAKES
HUNDREDS OF YEARS
TO "MAKE" ONE INCH OF
TOP SOIL - WITHOUT
GRASS A SINGLE
STORM MAY SCALP
OFF SEVERAL INCHES OF
THIS "SKIN" (TOP SOIL)

WHEN TOP SOIL IS GONE, THE
LAND IS PRACTICALLY USELESS
- NOTHING WORTH WHILE WILL
GROW -

NEXT TIME, YOU'RE TRAVELING
AROUND, FIND A BUNCH OF WILD
GRASS AND STUDY IT - THIS BUNCH
HAS QUITE A STORY - IT'S "THE LAST MAN"

NOTE THE CIRCLE
OF DEAD TUFTS
THIS SHOWS THE
CLUMP OF GRASS
WAS ONCE QUITE
LARGE, COMPOSED
OF SEVERAL BUNCHES
JOINED BY "VINE"
TENTACLES

EROSION HAS SET
IN, BARING THE
DEAD ROOTS



THIS
ONE LONE
SPRIG FIGHTS
ON FOR LIFE!

LEFT
ALONE, IT WILL
SPREAD AGAIN IN
A FEW YEARS - BUT IF
IT IS CHEWED OFF, IT
TOO WILL GIVE UP THE
GHOST -



WHEN THE GRASS
DIES, WEEDS MOVE IN,
LIKE THE HATED SNAKE
WEED, WHICH CATTLE
DON'T RELISH AT ALL - WEEDS
HELP STAVE OFF
SOME EROSION,
BUT NOT
LIKE
GRASS -

WE SAW
THOUSANDS OF ACRES
OF ONCE-RICH GRASS
LAND THAT ARE NOW
DENUDE, OR SPARSELY
COVERED WITH WEEDS -
WORTHLESS FOR GRAZING
AND A SOURCE OF SILT
TO WASH INTO OUR
RESERVOIRS - WHAT'S
TO BE DONE? WHAT
IS BEING DONE -?



HOW TO MAKE GRASS GROW ON LAND WHERE IT HAS ALMOST DIED OUT? HOW TO STOP TOP-SOIL FROM WASHING INTO AND CLOGGING OUR DAMS? THOSE AND OTHER QUESTIONS ARE BEING WORKED ON AT THE FOREST SERVICE'S SIERRA ANCHA EXPERIMENTAL FOREST, NORTH OF ROOSEVELT RESERVOIR - (VISITORS WELCOME)



THEY'VE GOT LITTLE DAMS, EQUIPPED WITH MECHANICAL DEVICES, WHICH KEEP A PEN-AND-INK RECORD OF ALL WATER FLOW - IT'S ASTOUNDING, THE CONSTANT CHECK THEY CAN KEEP ON THE EARTH -



NEXT WEEK WE'LL TELL YOU MORE ABOUT THE MARVELS OF SIERRA ANCHA FOREST -

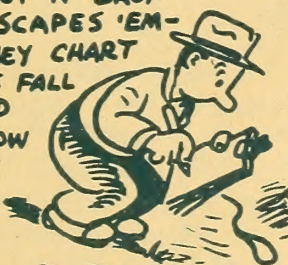
IMAGINE, "SAWING" OUT CHUNKS O' TH' LANDSCAPE, THEN LITERALLY MEASURING EVERY DROP O' WATER AND GRAIN O' DIRT THAT WASHES OFF 'EM - FEW ARIZONIANS KNOW ABOUT THIS LAND LABORATORY -

AT SIERRA ANCHA EXPERIMENTAL FOREST,

SCIENTISTS CAN TRAIL A DROP OF WATER FROM CLOUD TO ROOSEVELT DAM - TO YOUR "VICTORY GARDEN" OR LAWN -



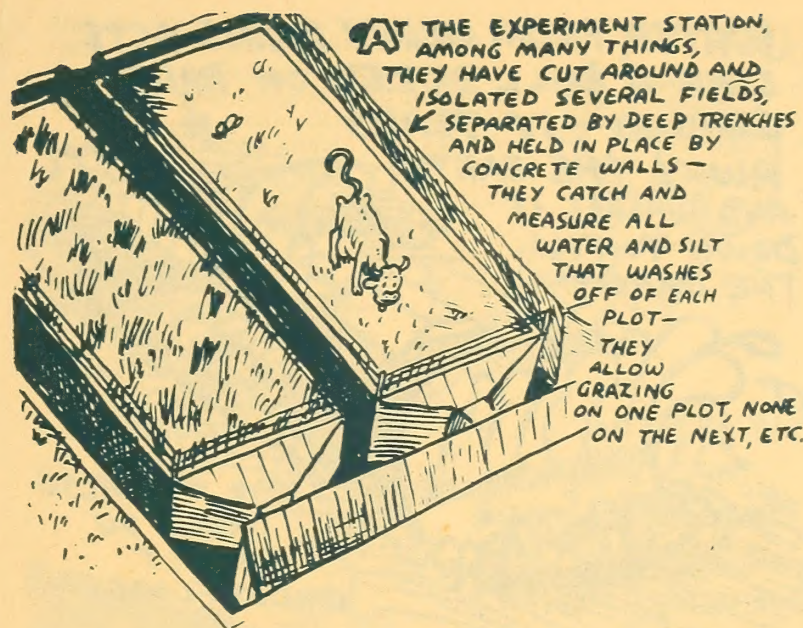
NOT A DROP ESCAPES 'EM - THEY CHART ITS FALL AND FOLLOW AS IT RUNS ALONG THE GROUND -



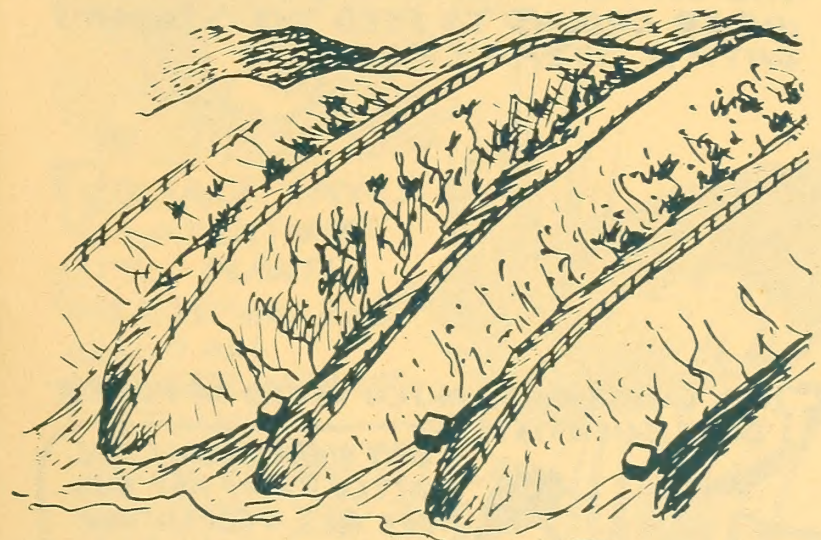
THEY EVEN KEEP TRACK OF WHAT HAPPENS WHEN THAT LI'L OL' DROP SOAKS INTO THE SOIL -



-AND THEY FOUND: ABOUT EIGHT OF EVERY 10 DROPS ON OUR WATER SHED ARE SUCKED RIGHT BACK INTO THE ATMOSPHERE AGAIN - ONLY TWO OF EVERY 10 DROPS RUN DOWN OR SOAK IN - WATER THAT SOAKS IN HAS A MUCH BETTER CHANCE OF REACHING THE DAM -



AT THE EXPERIMENT STATION, AMONG MANY THINGS, THEY HAVE CUT AROUND AND ISOLATED SEVERAL FIELDS, SEPARATED BY DEEP TRENCHES AND HELD IN PLACE BY CONCRETE WALLS - THEY CATCH AND MEASURE ALL WATER AND SILT THAT WASHES OFF OF EACH PLOT - THEY ALLOW GRAZING ON ONE PLOT, NONE ON THE NEXT, ETC.



THEY CAN MEASURE THE EFFECT - AT ANOTHER POINT THEY HAVE INSTRUMENTS SET UP TO MEASURE THE SAME EFFECTS ON LITTLE WATER SHEDS (HILLS) RIGHT IN THEIR NATURAL STATE - THEY LEARN WHAT EFFECT GRASS HAS ON THE RUN-OFF OF WATER INTO OUR DAMS - (FOR INSTANCE, THEY FIND THAT MOST OF OUR WATER COMES FROM WINTER FALL, WHICH SOAKS IN AND "PERCOLATES" DOWN TO THE STREAMS - SUMMER RAINS EVAPORATE, DISSIPATE THEMSELVES IN DAMAGING FLASH FLOODS)

A T THE FOREST SERVICE'S EXPERIMENT
STATION ON PARKER CREEK
SCIENTISTS STUDY WHAT HAPPENS TO
WATER ON OUR IRRIGATION "WATER SHED".

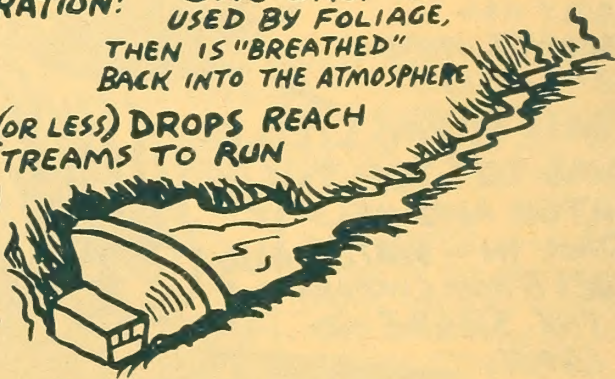
**OF EVERY 10 RAIN DROPS THAT FALL
ON RANGE AND FOREST, THIS HAPPENS TO 'EM.**



↑
APPROXIMATELY SEVEN
(OF EVERY 10) RAIN DROPS
ARE SUCKED RIGHT
BACK INTO THE
ATMOSPHERE BY
EVAPORATION!

↑
ONE DROP IS
USED BY FOLIAGE,
THEN IS "BREATHED"
BACK INTO THE ATMOSPHERE

**TWO (OR LESS) DROPS REACH
THE STREAMS TO RUN
DOWN
TO
THE
DAMS.**





WATER ON THE
GROUND'S SURFACE
IS EASY PREY TO
EVAPORATION—

(WHEN YOU SEE DAMP
SOIL DRY UP, THAT'S
EVAPORATION
AT WORK)



WHEN TH'
DROPS CAN
SOAK DEEP, THEY
ARE SAFE FROM
EVAPORATION, AND
CAN OOZE THRU
TO THE STREAMS
AND SPRINGS.



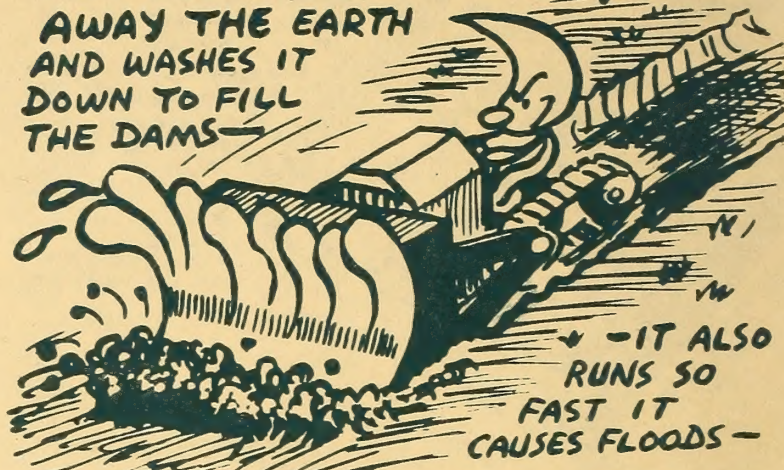
FOLIAGE SAVES
WATER (WHAT
LITTLE PLANTS
"BREATHE" WOULD
NEARLY ALL
EVAPORATE WITHOUT
THE PLANTS)



GRASS FORMS LITTLE
DAMS TO STOP THE
WATER AND HELP IT
SOAK IN — WATER ALSO
HIDES (FROM EVAPORATION)
IN THE SHADE
OF GRASS.

SCRAPE AROUND GRASS AND YOU
WILL FIND THE GROUND MORE MOIST
(THIS IS WATER "HIDING" FROM EVAPORATION)

WATER FROM HEAVY RAINS ACTS
LIKE A BULL DOZER ON BARE
GROUND — IT TEARS
AWAY THE EARTH
AND WASHES IT
DOWN TO FILL
THE DAMS —



— IT ALSO
RUNS SO
FAST IT
CAUSES FLOODS —

GRASS SLOWS UP SURFACE RUN-
OFF, SAVING THE SOIL AND CAUSING
THE WATER TO SOAK IN, SO IT RUNS
UNDER GROUND TO FEED THE STREAMS
WITH A STEADY FLOW —

THIS QUESTION IS OFTEN ASKED OF FOREST
DEPT. SCIENTISTS:



WHY WORRY ABOUT THE
CATTLE? WHY NOT KILL
OFF ALL VEGETATION
IN THE HILLS SO ALL
THE WATER WILL RUN
DOWN TO THE IRRIGATION
DAMS INSTEAD OF BEING
USED UP WATERING A
LOT O' GRASS?

WE'VE ANSWERED THAT
IN PREVIOUS SQUARES,

BUT LET'S RUN OVER IT AGAIN! WE LEARNED AT
THE FOREST SERVICE EXPERIMENT STATION ON

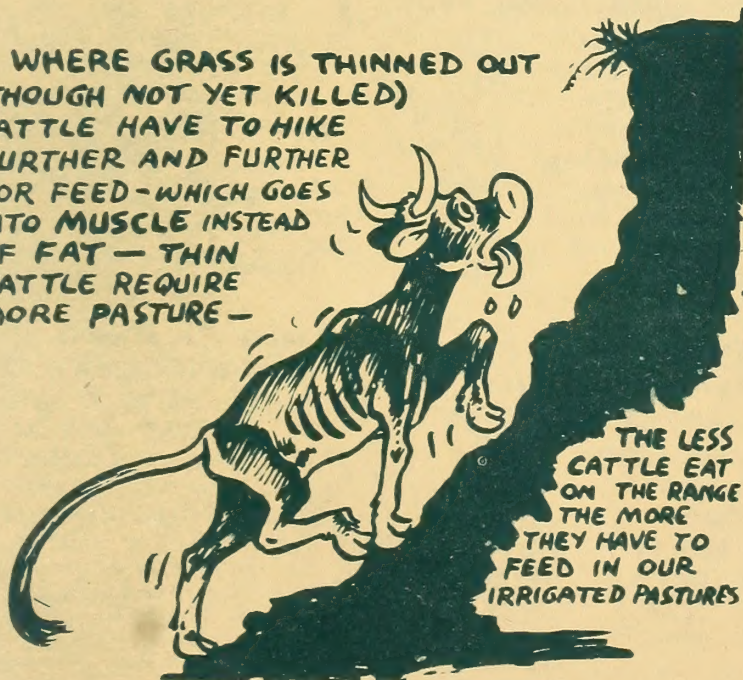
PARKER CREEK THAT GRASS "NAILS" DOWN
THE THIN "TOP SOIL"—WHEN
GRASS IS KILLED OFF THE
TOP SOIL WASHES LOOSE
AND IS CARRIED
DOWN TO FILL
OUR RESERVOIRS



WORTHLESS
WEEDS, WHICH
SOAK UP ABOUT AS
MUCH WATER AS GRASS,
SPRING UP IN THE POOR SOIL
WHEN GRASS DIES OUT—

(GRASS "USES UP" VERY LITTLE WATER, ANYWAY—)
—WHEN GRASS GOES, OUR CATTLE INDUSTRY
WILL DIE WITH IT—NOT ONLY THAT, THE LAKES
BEHIND OUR GREAT DAMS WILL DWINDLE IN
SIZE, AND EVENTUALLY FILL WITH SILT—

WHERE GRASS IS THINNED OUT
(THOUGH NOT YET KILLED)
CATTLE HAVE TO HIKE
FURTHER AND FURTHER
FOR FEED—WHICH GOES
INTO MUSCLE INSTEAD
OF FAT—THIN
CATTLE REQUIRE
MORE PASTURE—



THE LESS
CATTLE EAT
ON THE RANGE
THE MORE
THEY HAVE TO
FEED IN OUR
IRRIGATED PASTURES

WHILE LARGE AREAS OF THE WEST HAVE
BEEN RUINED BY OVERGRAZING IN THE PAST,
FORESTRY OFFICIALS TELL US MUCH OF THE GRASS
LAND CAN BE REVIVED—WE SAW LARGE TEST
AREAS, FENCED OFF FOR SEVERAL YEARS, WHERE
GRASS IS ON THE INCREASE, IN SPITE OF THE
LONG DROUTH—IN THESE AREAS
GRASS IS CHOKING
OUT HARMFUL
WEEDS—

CONSERVATIONISTS
AND STOCKMEN
(THOUGH THEY
OFTEN
DISAGREE)
ARE
SERIOUSLY
WORKING
ON HOW



BEST TO SAVE THE GRASS—AND, IN THE
END, WHAT'S BEST FOR COMING GENERATIONS
OF STOCKMEN, WILL ALSO SAVE THE WATER
RESOURCES OF VALLEY FARM AND
CITY DWELLERS—

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